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## Davis, Hubble inducted into Alabama Engineering Hall of Fame

by Jonathan Baggs

**D**r. N. Jan Davis, director of Marshall's Flight Projects Directorate, was inducted into the Alabama Engineering Hall of Fame last Saturday.

Also inducted was NASA's Hubble Space Telescope for its contributions to the advancement of engineering.

As director of the Flight Projects Directorate, Davis oversees development of the International Space Station's connecting nodes 2 and 3; multi-purpose logistics modules; commercial EXPRESS racks; and environmental and life-support systems. Davis also oversees the Payload Operations Center — the science command post at the Marshall Center that links Earth-bound researchers around the world with the Space Station. Her directorate works closely with the Boeing Co. as it builds and tests structural elements and truss segments of the Space Station.

Davis began her career at the Marshall Center in 1979, leading a team responsible

for structural analysis and verification of the Hubble Space Telescope, the telescope servicing mission and the Chandra X-ray Observatory. She also was lead engineer for the redesign of the Space Shuttle Solid Rocket Booster External Tank attach ring.

Selected to join the Astronaut Corps in 1987, Davis flew on three Space Shuttle missions — STS-47 in 1992, STS-60 in 1994 and STS-85 in 1997. Prior to her Shuttle flights, Davis served as the capsule communicator with Shuttle crews from the Mission Control Center at the Johnson Space Center in Houston. Before returning to Marshall, Davis was director of the

*See Engineering on page 2*



Davis

## Discovery to launch March 8 with first Station crew shift change and Italian-built Station logistics carrier

NASA release

**S**pace Shuttle Discovery is set to launch at 5:42 a.m. CST March 8 on a mission to the International Space Station that will make NASA's first crew shift change in orbit and carry an Italian-built Station logistics carrier filled with laboratory experiments and equipment.

The Marshall Center is responsible for three Multi-Purpose Logistics Modules that were built in Italy.

"This will be the fifth Space Shuttle launch in the past seven months, and each of those missions has been safe, fully successful and, relative to their challenge and complexity, almost deceptively smooth," said Space Shuttle Program Manager Ron Dittmore. "That record is a testament to the excellent work that has been done by all members of the Space Shuttle and Space Station teams coast to coast. Discovery is ready and so are we."

Discovery's flight, designated Space Shuttle mission STS-102, will be commanded by Jim Wetherbee. The pilot will be Jim Kelly and Andy Thomas and Paul Richards will serve as mission specialists. Discovery also will carry the second expedition crew — Commander Yuri Usachev and flight engineers Jim Voss and Susan Helms — to the International Space Station.

At the end of its almost 12-day flight, Discovery will bring home the first Station crew, Commander Bill Shepherd, pilot Yuri Gidzenko and flight engineer Sergei Krikalev, completing more than four months spent in orbit aboard the complex. Discovery also will take aloft the first Station logistics carrier, an Italian-built logistics module named Leonardo that will be filled with the first major laboratory experiments as well as key equipment.

Discovery is planned to land March 20 at the Kennedy Space Center in Florida.

# Goldin appoints Abbey NASA senior assistant

NASA release

**N**ASA Administrator Dan Goldin recently appointed George Abbey, director of the Johnson Space Center in Houston, as his senior assistant for international issues.

This appointment comes after a highly decorated career stemming from the Apollo program, which earned Abbey the Medal of Freedom for his role on the Apollo 13 Mission Operations Team.

Roy Estess, director of NASA's Stennis Space Center in Mississippi, will serve as the acting director of Johnson.

"As the President has indicated, there needs to be reform in human spaceflight," Goldin said. "During this time of transition, it is also the time for a change of leadership at the Johnson Space Center. We face a difficult and challenging future within the space program, and Roy Estess, working closely with Joe Rothenberg, the associate administrator for space flight, will ensure a firm footing during this period."

Joe Rothenberg, the associate administrator for space flight, and Estess will look at the talent at NASA and make recommendations as to who should be the new leader of Johnson. Estess' 40-year career in critical engineering and management positions distinguished him as a recognized leader, twice receiving the Presidential Distinguished Service Award.



Abbey

## Engineering

*Continued from page 1*

Human Exploration and Development of Space Independent Assurance Office at NASA Headquarters in Washington, D.C.

The owner of one patent, Davis is a Registered Professional Engineer and has been awarded NASA's Outstanding Leadership Medal, Exceptional Service Medal, and three Space Flight Medals, as well as the Marshall Space Flight Center Director's Commendation.

The Alabama Engineering Hall of Fame also honored the Hubble Space Telescope, the first major infrared-optical-ultraviolet telescope to be placed in Earth orbit. The first Hubble image was returned from space May 20, 1990, and to date the telescope has studied 13,670 astronomical objects and made 271,000 individual observations.

Virtually every major Hubble subsystem required advancement of the state of the art in hardware and software. Design concepts provided by engineers at the Marshall Center resulted in the Center being chosen to lead the design, fabrication, prelaunch verification and in-orbit operational verification of the telescope.

NASA and its collaborator on the project, the European Space Agency, brought together engineers, scientists, contractors and institutions from across the globe, all under the direction of the Marshall Center. Art Stephenson, director of the Marshall Center, accepted the induction honor on behalf of all involved in the Hubble Space Telescope's success.

The Alabama Engineering Hall of Fame — based in Tuscaloosa — was founded in 1987.

*The writer, employed by ASRI, supports the Media Relations Department.*

# Largest mass extinction triggered by asteroid or comet

NASA release

**N**ew findings provide evidence that Earth's most severe mass extinction — an event 250 million years ago that wiped out 90 percent of the life on Earth — was triggered by a collision with a comet or asteroid.

More than 90 percent of all marine species and 70 percent of land vertebrates perished as a result, according to the NASA-funded research team, led by Dr. Luann Becker of the University of Washington in Seattle. The team's findings are published in the journal *Science*.

The collision wasn't directly responsible for the extinction, but rather triggered a series of events, such as massive

volcanism, and changes in ocean oxygen, sea level and climate. That in turn led to species extinction on a wholesale level, according to the team.

The scientists do not know the site of the impact 250 million years ago, when all Earth's land formed a supercontinent called Pangea. However, the space body left a calling card — complex carbon molecules called buckminsterfullerenes, or Buckyballs, with the noble gases helium and argon trapped inside the caged structure. Fullerenes, which contain at least 60 carbon atoms and have a structure resembling a soccer ball or a geodesic dome, are named for Buckminster Fuller, inventor of the geodesic dome.

The researchers know these particular Buckyballs are extraterrestrial because the

noble gases trapped inside have an unusual ratio of isotopes, atoms whose nuclei have the same number of protons but different numbers of neutrons. Terrestrial helium is mostly helium-4, while extraterrestrial helium is mostly helium-3.

These gas-laden fullerenes were formed outside the Solar System, and their concentration in the sedimentary layer at the boundary of the Permian and Triassic periods means they were delivered by comets or asteroids. The researchers estimate the comet or asteroid was roughly 3 3/4 to 7 1/2 miles (6 to 12 kilometers) across, or about the same size as the asteroid believed responsible for the extinction of the dinosaurs 65 million years ago.

# March is Property Awareness Month at Marshall

by the Property Management Group

**M**arch is Property Awareness Month at the Marshall Center. Since last year's Property Awareness Month, Center Operations' Property Management Group has been investigating customer suggestions and implementing tools and processes to make it easier to use government property.

For example:

- **Users of government property were not knowledgeable of their responsibilities.**

Web-based Property Responsibility Training was made available as a valuable information resource for all users of government property to understand their responsibilities. This training is still available under the Center Operations Directorate button on "Inside Marshall." It is still a requirement for all personnel to take the training and complete the test. Our goal this year is to complete training for all remaining personnel.

- **Customers asked if on-site contractors could consolidate annual inventory activities.**

A joint civil service and contractor inventory team consisting of Cortez III, Boeing, Consolidated Space Operations Contract, Outsourcing Desktop Initiative for NASA and PrISMS, completed the scanning phase of a Centerwide wall-to-wall physical inventory of all tagged equipment. This activity has never been previously consolidated at NASA and is nearing successful completion. The results of this combined effort will be forwarded to all directorates for assistance in locating missing and misplaced equipment. Inventory results will be published in the Marshall Star the last week of March.

- **Customers asked for more efficient disposal response times.**



The disposal/reutilization activities were consolidated under the existing institutional contract that manages other property management activities. This has increased efficiency in disposal management operations. Additionally, one final disposal sale will be held at Bldg. 8025 in April. All remaining disposal sales will be held at our new disposal location off-site. Details regarding disposal sale activities, including our new "retail sales" initiative will be published in the Marshall Star in April.

- **Customers asked for an electronic work-order tracking system that would provide status activity on other types of service requests.**

Marshall's Service Request System, historically used to order telephones and pagers, has been expanded to receive requests for Space Utilization, Communications, Relocations and Special Event services. Submitted requests can be

tracked via a work order number electronically at any time until completion. The URL to order these services is <http://srs.msfc.nasa.gov/catalog/bin/home.asp>. Use of this system replaces the manual submission of MSFC Forms 915, 4113, e-mail and telephone requests.

The Service Request System will be expanded further to accept electronic "equipment loan" requests and "mobile property passes." In addition, the new consolidated equipment database entitled, "Marshall Asset Management Systems," will be released this summer. This database will allow users to access all assigned equipment and make real-time changes and inquiries. More information regarding this initiative will be released in the Marshall Star this summer.

During March, there will be a "pop-up" display in the Bldg. 4200 lobby that will change every couple of days, the Marshall property video will be periodically televised on Centerwide TV and additional property awareness articles will be published in the Marshall Star.



## Marshall employees, contractors invited to see March 8 launch

Thirty-two Marshall employees and contractors are being honored for their significant contributions to the space program. The group will be hosted by NASA at Kennedy Space Center in Florida, for the scheduled March 8 launch of STS-102.



Jeff Brewer, ED11



Gayle Brown, USRA



Joseph L. Groover, CSC



Major Houston Jr.,  
OAO/ODIN



Sherwood Anderson, SD10



Roger W. Bursey Jr., P&W



Norman L. Hudson, NTI



Richard Lamb, ED37



Joel Anderson, QS22



Mark E. Boudreaux, SD13



Jeppy L. Clayton, ED25



Robert Kwas, Sverdrup



Richard Leonard, MP51



Rose Lindsey, FD33



Carolyn Lundy, CD10



Roy Lutonsky, ED42



Cynthia Mason, SD47



John W. Moorhead, MP21



Lowell C. Newton, RS30



Nancy Jo Ogozalek, ED33



Jacqueline F. Pates, AD33



Linda Z. Porter, AD34



Paula Raby, SD50



Adrienne Rainwater, HEI



Thomas J. Rieckhoff, TD53



Tammy Simmons, LS01



Cynthia L. Sprader, TD71



Joe Stiles, Cortez III



Steve Terry, FD03



Katherine P. VanHooser, TD61



Jennifer Whitworth, TBE



Dena Yell, QS01

**S**ally Little, manager of the Marshall Center's Technology Transfer Department, was recently featured by Technology Today Magazine as one of "Huntsville's Women in Technology."



Little

Little has managed the Technology Transfer Program for three years. Prior to that, she served as manager of the Planning and Requirements Office for Marshall's Heavy Lift Launch Vehicle Office.

While assigned to NASA Headquarters in Washington, D.C., she managed a crosscutting program to ensure that materials used on the International Space

Station could meet the challenges posed by long-duration space missions.

During the period following the Challenger accident, Little served as executive assistant to Marshall's center director. Her return-to-flight activities included managing the redesigned solid rocket motor process control and verification program.

Little has 12 years of applied research and development experience with materials and processes. Her ground-based and spaceflight experiment investigations focused primarily on space environmental effects issues for NASA's major flight programs, such as Space Shuttle, Hubble Space Telescope and the International Space Station.

## Marshall Medical Center provides information on skin cancer screenings

**T**he Medical Center has received a few follow-on questions about skin cancer screening. The following additional information is provided.

- The skin cancer screening is provided during the second visit with the physician or nurse practitioner.
- The screening is simply a visual inspection.
- Civil servants who don't normally use the Medical Center for an annual examination may receive the skin cancer screening if requested. However, the Medical Center approach to the screening will be conservative, and should any spot on your body be suspect for possible cancer, they will refer you to a specialist.
- The service is available to contractors whose job is classified in any one of several categories that mandates an annual exam at the Medical Center.

## America's first Space Shuttle returns to service

NASA release

**O**n the eve of the 20th anniversary of its maiden voyage, America's first Space Shuttle orbiter, Columbia, returned to service last week fresh from a year and a half of maintenance and upgrades that have made it better than ever.

"Columbia is a safer shuttle today than the day it first launched," said Astronaut John Young, who commanded the first-ever Space Shuttle mission aboard Columbia in April 1981. "Columbia has gotten better as it has gotten older."

It's gone from test flights to doing things we once never dreamed we could do. Although space flight will always carry risks, we must keep pace with advances in technology and improve the Shuttle when we can, ensuring it is as safe as it can be."

"As its 20th birthday approaches, Columbia is fit to fly for many more years," Space Shuttle Program Manager Ron Dittemore said. "It is safer and more capable than it has ever been, a result of the thorough maintenance and continuous improvements that have been incorporated regularly into the Shuttle fleet."

More than 100 modifications and improvements have been made to Columbia, highlighted by the installation of a new "glass cockpit" that replaced mechanical instruments with 11 full-color, flat-panel displays. The new cockpit is lighter, uses less electricity and sets the stage for the next generation of improvements, a "smart cockpit" under development that will make the cockpit even more user-friendly. Columbia is the second of NASA's four space shuttles to be fitted with the new "glass cockpit."

Columbia spent a year and a half at the Palmdale facility. Other improvements include weight reductions that have increased the amount of cargo Columbia can carry to orbit by hundreds of pounds. To save weight, almost 1,000 pounds of unused wire — left over from equipment and sensors that were used on Columbia for only the first few Shuttle test flights — were removed.

Because of wiring damage found in the Shuttle fleet in 1999, comprehensive inspections of 95 percent of Columbia's more than 200 miles of wire were performed at Palmdale. To prevent such damage from recurring, technicians smoothed rough edges throughout the Shuttle and encased wiring in high-traffic work areas in protective tubing. Such inspections and protective measures will be a regular feature of all future Shuttle major maintenance.

Preliminary preparations were made that could allow Columbia to use a Space Station docking system, enabling it to join the rest of the Shuttle fleet as a future courier to the International Space Station if needed. In addition, Columbia's crew cabin floor was strengthened, the heat protection on its wings was enhanced and a device to protect the cooling system from space debris was added, making it a safer spacecraft.

Upon arrival at Kennedy, Columbia will begin preparations for its 27th trip into space, scheduled for this fall.

## Center Announcements

### Annual retiree dinner

The 15<sup>th</sup> annual Marshall Dinner honoring those employees who retired in calendar year 2000 will be at 5:30 p.m. March 22 at the Von Braun Center. All employees, retirees and guests are invited to attend. This year's entertainment will feature managers, employees and retirees performing instrumental and vocal musical selections which display their own varied talents. Tickets — at \$16 each for either beef or chicken — will be available from administrative officers March 5 through March 16. Reserved tables may be purchased from your administrative officer to Patricia Caraway in Bldg. 4200, room 328.

### Recycle alkaline batteries

Alkaline batteries in sizes AAA, AA, C and D can be turned in for recycling at the substore in Bldg. 4471. To be more environmentally friendly, users can bring old batteries to the substore and exchange them for new ones. EG&G will properly dispose of the used batteries. For more information, call Farley Davis at 544-6935.

### Earth Day 2001 logo contest

Marshall civil servants and onsite contractors are invited to participate in the Earth Day T-shirt logo contest. The theme is "2001: An Earth Odyssey." The submission must be a picture on 8.5-by 11-inch white paper and must have no more than four colors. Each employee may enter as many designs as he or she likes. The winner of the contest will receive \$50. Please send all entries with your name and phone number on the back of the design to Reginald Alexander/TD52/Bldg. 4203/Room 6108A. Entries should be submitted no later than close of business March 7.

### Washington Update

Washington Update with Alabama Sen. Richard Shelby will be at noon March 26 at the Von Braun Center. Cost is \$25. To make reservations, call

Rosa Kilpatrick of the Customer and Employee Relations Directorate at 544-0042. Payment — either cash or check — must be made no later than March 15.

### AIAA Conference

The American Institute of Aeronautics and Astronautics is sponsoring the 20th Digital Avionics Systems Conference Space — Aviation's Next Frontier — at the Plaza Resort and Spa, Oct. 14-18 in Daytona Beach, Fla. This is also a call for participation: papers, tutorials and exhibits. If you are interested in participating, you may contact Delisa Wilkerson/ED13 at: 544-4967 or -9582 or e-mail [delisa.wilkerson@msfc.nasa.gov](mailto:delisa.wilkerson@msfc.nasa.gov)

### Clubs and meetings

### AIAA lecture on Challenger

Allan J. McDonald of Thiokol Propulsion will speak at the American Institute of Aeronautics and Astronautics (AIAA) dinner at 6:30 p.m. March 7 at the Redstone Arsenal Officers' and Civilians' Club. McDonald, director of the Space Shuttle Solid Rocket Motor project at the time of the Challenger accident, will discuss lessons learned. Cost is \$18 or \$10 for full-time students. For reservations, call Alan Lowrey at (256) 461-4398.

### Photo Lab retirees

Photo Lab retirees meet the first Tuesday of each month at 9:30 a.m. at Shoney's on University Drive and Memorial Parkway. For more information, call Carl Dow at 461-8181.

### NASA Exchange

### NASA goes to the Stars

The NASA Exchange is offering free tickets to all Marshall team members and families to the opening night baseball game at Joe Davis Stadium in Huntsville. The Huntsville Stars will play the West Tennessee Diamondjazz, the AA affiliate team of the Chicago Cubs, at 7:05 p.m.

April 13.

### Training

### Effective technical presentations

Effective Technical Presentations featuring Pete Rosselli to be broadcast from 11:30 a.m.-1:30 p.m. March 14 on Marshall Continual Learning Channel 14. Learn to deliver your ideas clearly and with memorable impact. Demonstrate confidence and enthusiasm. Be more listener focused. Handle objections with poise. These highly trainable skills are the focus of this course. This seminar will have unlimited registration. To register and receive materials, e-mail your name and phone number to:

[edtec@msfc.nasa.gov](mailto:edtec@msfc.nasa.gov).

### Communication skills for women

High-Impact Communications Skills for Women" will be from 9 a.m.-4 p.m. March 29, in Bldg. 4200, room G-13E. Register through AdminSTAR. The course is limited to 35 participants. The seminar provides hard-skills training in how to:

- Use the techniques of influence and persuasion to build productive and rewarding relationships with all kinds of people.
- Control your emotions and stay composed and effective while under pressure.
- Overcome fears of public speaking, and voice your thoughts and opinions readily.
- Handle high-stakes situations, mistakes, and crises with confidence.

All employees may participate in the training; however, it will be geared toward women.

### Listening, coping workshops

Two workshops will be held March 15-16 in Bldg. 4200, room G-13D. Improving listening and speaking skills is from 8-11:30 a.m. Turning negatives into positives will be from 12:30-4 p.m. For more information, call Chrissa Hall at 544-5468. Civil servants may register via AdminSTAR.

## Employee Ads

## Miscellaneous

- ★ Nintendo 64 package; includes 2 controllers, transfer pak, and game, \$130. 864-2629
- ★ Conn alto sax, \$450 obo; Soloflex with all attachments, \$475 obo. 653-3625
- ★ Medela pump-in-style breast pump and accessories, \$150. 880-2290
- ★ 1994 Astro 18SCX bass boat, 150 Mercury XR6, built-in chargers, hot foot, garage kept, \$9,500 obo. 721-3812
- ★ 2000 utility trailer, new 3,800 lbs. Capacity, 14" wheels, 6' ramp, \$550. 881-1005
- ★ Collie puppies, sable and white, great w/ kids, AKC registered, wormed, shots, \$200. 538-6744
- ★ Twin beds, mattresses, bed covers, matching cushions and table, \$250. 533-4824
- ★ Sears Craftsman buffer, \$20; case of Havoline Type F auto transmission fluid, \$8; 5-gallon gas can, Army green, \$10; metal vise, \$10. 682-5181
- ★ Tractor, 4x4, compact diesel, 16.5HP, w/ tiller and flail mower, \$3,350. 464-5819
- ★ 1993 Dutchman Classic RV w/bedroom, bathroom, kitchen, microwave and refrigerator, \$6,750; 1994 Bayliner ski boat, \$4,750. 232-2916
- ★ 1996 Gulfstream Innsbruck travel trailer, 21', bath w/shower/tub, includes extras, \$7,900. 881-5093
- ★ Kingsize waterbed, semi-waveless, w/many accessories, \$400 obo; baby bed, \$50 obo. 880-4015
- ★ Schwinn Worldsport 10-speed; Trek bike helmet, and tire pump w/pressure gauge readout, \$95. 830-1060
- ★ Weslo treadmill, \$250; oak coffee table, \$75; colonial end tables, \$75; quilt rack, \$25. 464-6933
- ★ AMD K6-2, 375Mhz, 128Mb, 2.5Gb HD, 56k modem, monitor, \$350; MacQuadra 605, monitor, Laserwriter, software, \$250. 851-8085
- ★ Schwinn Air-Dyne exercise bike, \$200. 883-8658
- ★ Gold Star 4-head Hi-Fi stereo VCR, Jog and Shuttle, flying erase head, \$40. 682-

5181

- ★ Miscellaneous computer parts, 64MB SIMM memory, sound cards, 266mhz CPUs, etc. 489-0056
- ★ Champion juicer, \$80; large cedar chest, \$75; upholstered chair, \$80; lawnmower, \$30; tools, etc. 772-9319
- ★ Children's battery-operated car, Rescue Force, two-seat, 2-speed, \$85; assortment of remote-controlled cars. 772-4153
- ★ Martin gas stove, 70K BTU, free standing, \$25. 534-4968
- ★ Hot tub, four person, 110/220, needs new cover, \$250. 961-4840
- ★ 1985 Catalina 27' sailboat, inboard diesel engine, well equipped, \$16,000. 882-0784

## Vehicles

- ★ 1995 Dodge Neon, highline, 4-cylinder, 5-speed, 4-door, 72K miles, \$4,000 firm. (256) 0753-2278
- ★ 1996 Jeep Grand Cherokee Limited, green, auto, V-8, non-smoker, sunroof, 85K miles, towing hitch, \$15,300 obo. 883-7621
- ★ 1998 Acura Integra, red, hatchback; 5-speed, 34K miles, \$12,900. (256) 498-3279
- ★ 1995 Isuzu Rodeo LS, 70.5K miles, 5-speed manual, V-6/3.2L, red/gray, new tires, \$8,500. 216-0093

- ★ 1996 GMC K1500 Z71 SLT truck, 4WD, X-cab, V-8, auto, leather, CD, remote entry, \$13,500. 858-9535
- ★ 1974 Bronco, sport package, 302, 3-speed, ps, disc brakes, new tires, \$5,200. 464-5819
- ★ 1992 Lincoln Towncar, 68K miles, white, blue leather, dual power seats, keyless entry, \$5,500. (256) 586-7375
- ★ 1987 Nissan Maxima, top storm damaged, for repair or parts, \$600. 837-2267
- ★ 1987 Nissan pickup, 137K miles, one-owner, tool box, good tires, 5-speed, \$1,200. 837-8967
- ★ 1991 Cougar, V-6, auto, all-power, leather, cruise, digital dash, cassette, 128K miles, \$3,250. 539-3166
- ★ 1999 Ranger X-Cab, 4-door, 21.5K miles, \$18,750. 682-2459

## Wanted

- ★ Ernst Heinrich (E.H.) Roth violin, full-size 4/4. 232-2696

## Found

- ★ Clip-on sunglasses, pen and umbrella case, Bldg. 4200 Lobby. Call 544-4758 to identify/claim

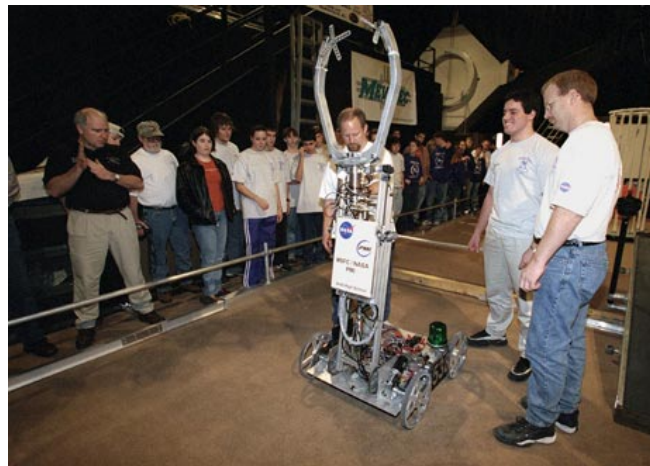


Photo by Doug Stoffer, NASA/Marshall Space Flight Center

## FIRST Robotics

From left, Brent Hipp, Marshall engineer; Andre Garcia, Arab High School student; and Roy Patterson of Patterson machine Inc. prepare the Arab High School robot for competition.

## MARSHALL STAR

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